

REMARKS

The Examiner is thanked for the performance of a thorough search. No claims have been amended, canceled, withdrawn or added. No new matter has been added. Each issue raised in the Office Action is addressed hereinafter.

OBJECTION TO THE TITLE

The Office Action alleged that the title of the invention is not descriptive and requires a new title that is “clearly indicative of the invention to which the claims are directed.” Office Action, page 2. The present title is clear. Reconsideration is respectfully requested.

CLAIM REJECTIONS – 35 U.S.C. § 102

Claims 1-15, 24-26, and 30-35 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Pub. 2002/0161891 (“Higuchi”). These rejections are respectfully traversed.

SCOPE AND CONTENT OF *HIGUCHI*

Higuchi’s management server lends computing resources (logical partitions) provided by one or more lending servers to clients seeking to borrow one of the computing resources. To request a logical partition, a client sends a borrowing request to the management server. (*Higuchi*, para. 58). The borrowing request specifies the desired processing capability of the requested logical partition. (*Higuchi*, para. 110). Upon receiving a borrowing request, the management server searches a database (resource database) for a logical partition that most closely meets the requirements of the borrowing request. (*Higuchi*, para. 111). The management server then returns, to the client, the lending conditions for the logical partition. (*Higuchi*, para. 111; FIG. 8).

The management server learns of “lendable” logical partitions when lending servers offering computing resources to clients register their logical partitions with the management server. To register a logical partition with the management server, the lending server sends

registration information comprising the lending conditions of the logical partition. (*Higuchi*, para. 89; FIG. 6). Upon receiving registration information about a logical partition, the management server stores the lending conditions of the logical partition in the resource database. (*Higuchi*, para. 90; FIG. 6). Once registered, the logical partition may be loaned by the management server to a client seeking to borrow computing resources.

Information about a logical partition that the management server receives when the logical partition is registered is included in the information that the management server sends in response to a borrowing request from the client. The lending conditions included in a request to register a logical partition are the same as the lending conditions returned in response to a borrowing request. (Compare *Higuchi*, FIG. 6, Step S14 with FIG. 8, Step S44). Thus, *Higuchi*'s management server is not about generating different information based on the lending conditions information it receives from the lending servers and sending the different information in response to borrowing requests from clients.

Additionally, the information sent from the management server in response to borrowing requests from clients identifies only a single logical partition on a single lending server.

Specifically, *Higuchi* at paragraph 58 states:

if the contents of the lending conditions 103 of the lendable logical partition 2A in the lending server 1a meet the use requirements of the request and the lending status field 105 is blank, indicating that the partition is not in use, the management server 10 sends the allocated resource information determined from the lending server ID 101, the logical partition ID 102, and the lending key 104 or the lending conditions 103 in the resource database 12 to the client system 20a

Paragraph 58 of *Higuchi* makes clear that "lending conditions 103" refers to the lending conditions of logical partition 2A, i.e., the lending conditions of a single logical partition on a single lending server. Thus, the response of *Higuchi*'s management server to borrowing requests from clients is not about suggesting multiple, alternative logical partitions or lending servers.

Rather, the response is exclusively about offering a single logical partition on a single lending server that meets the resource requirements of the requesting client.

CLAIM 1

In contrast, Claim 1 features:

A method for adaptive load balancing comprising the steps of:
monitoring **operating conditions** of a server;
determining, based on the **operating conditions**, whether to send a **behavior modification hint** to one or more clients that are served by the server;
generating the **behavior modification hint** based on the **operating conditions**;
and
sending the **behavior modification hint** to the one or more clients;
wherein the **behavior modification hint** comprises a suggestion of two or more alternative servers.

Applicant's prior response explained that *Higuchi* does not teach or suggest the following limitation of Claim 1: **monitoring operating conditions on a server ...** In reply, the Office Action states at page 5:

Higuchi teaches using management server to monitor operating conditions of a lending server by having the lending server updates its lending registration information comprises lending conditions (page 3, paragraphs [0047-0050]; page 5, paragraph [00065]).

Thus, the Office Action appears to equate the claimed "operating conditions" with *Higuchi*'s lending conditions. The **same lending conditions** are sent to a client making a borrowing request of *Higuchi*'s management server. In contrast, Claim 1 features sending a behavior modification hint that was generated "based on the operating conditions" of a server—that is, the **behavior modification hint is not the same as the operating conditions**.

Even with a broadest reasonable reading of the terms of Claim 1, one of ordinary skill in the art would not consider the claimed "operating conditions" to be the same as the claimed "behavior modification hint". For one, Claim 1 explicitly recites "generating the behavior modification hint based on the operating conditions". It does not make any sense for Claim 1 to recite this limitation if the claimed "behavior modification hint" is the same as claimed

“operating conditions”. In other words, it is unreasonable to read a limitation that explicitly recites generating X based on Y to mean generating Y based on Y. Thus, it would also be unreasonable for one of ordinary skill in the art to read “generating the behavior modification hint based on the operating conditions” to read “generating the operating conditions based on the operating conditions”.

Second, Claim 1 explicitly recites “wherein the behavior modification hint comprises a suggestion of two or more alternative servers”. The claimed “behavior modification hint” includes “a suggestion of two or more alternative servers” while the claimed “operating conditions” does not. However, to read the claimed “operating conditions” to be the claimed “behavior modification hint” would amount to impermissibly importing the limitation “wherein the operating conditions comprises a suggestion of two or more alternative servers”.

In rejecting Claim 1, the Office Action unreasonably equates *Higuchi*’s lending conditions with the claimed “operating conditions” and the claimed “behavior modification hint”. Such an equation is unreasonable because, as explained above, it impermissibly conflates what one skilled in the art would read as two distinct limitations of Claim 1 into a single indistinct limitation. Therefore, *Higuchi*’s lending conditions cannot teach or suggest both the claimed “operating conditions” and the claimed “behavior modification hint”.

Further, *Higuchi* does not teach or suggest “wherein the behavior modification hint comprises a suggestion of two or more alternative servers”. As discussed previously, in *Higuchi*, the information sent from the management server to a client in response to borrowing request from the client specifies only a single logical partition on a single lending server. Specifically, the information sent from the management server comprises only the lending conditions of a single logical partition that meets the borrowing requirements. (*See Higuchi*, para. 111). Thus,

Higuchi fails to disclose “wherein the behavior modification hint comprises a suggestion of two or more alternative servers.”

Based on the foregoing, it is respectfully submitted that *Higuchi* fails to disclose or suggest at least one limitation of Claim 1. Therefore, Claim 1 is patentable over *Higuchi*.

CLAIMS 24, 25, AND 26

Independent Claims 24, 25, and 26 recite features similar to the features recited in Claim 1. Therefore, Claims 24, 25, and 26 are patentable over *Higuchi* for at least the reasons given above with respect to Claim 1.

REMAINING CLAIMS

The remaining claims not discussed so far are dependant claims that depend on an independent claim that is discussed above. Because each dependant claim includes the features of claims upon which they depend, the remaining claims are patentable for at least those reasons the claims upon which the remaining claims depend are patentable. Removal of the rejections with respect to the remaining claims and allowance of the remaining claims is respectfully requested. In addition, the remaining claims introduce additional features that independently render them patentable.

For example, Claim 2 features “wherein the server is an AAA server and the one or more clients are AAA clients”. Claim 3 features “wherein the step of sending the behavior modification hint comprises sending a RADIUS message obtaining the behavior modification hint in a vendor specific attribute within the RADIUS message”. The Office Action contends that these features of Claims 2 and 3 are disclosed in *Higuchi* at paragraphs 41, 47, and 48. However, nowhere in *Higuchi* is any of an “AAA server”, an “AAA client”, or a “RADIUS message” taught or suggested. If the rejections of Claims 2 and 3 are to be maintained Applicant respectfully requests that the current rejection be withdrawn and a new non-final Office Action

be issued that points out what thing or things in *Higuchi* correspond to the claimed “AAA server”, “AAA client”, and “RADIUS message”.

Claim 6 features “determining the one or more clients to which to send the behavior modification hint based on a predefined list of clients.” The Office Action contends that this feature is taught by paragraphs 50-53 and 110-111 of *Higuchi*. However, the cited portions of *Higuchi* merely disclose a management server responding to a borrowing request from a client and not determining which of one or more clients to send information to based on a predefined list of clients. If the rejection of Claim 6 is to be maintained Applicant respectfully requests that the current rejection be withdrawn and a new non-final Office Action be issued that identifies what thing in *Higuchi* is the claimed “predefined list of clients” and what thing in *Higuchi* determines “one or more clients to which to send the behavior modification hint based on [the] predefined list of clients”.

Claims 11 features:

The method of Claim 1, wherein the step of determining when to send a behavior modification hint is based on **network conditions of one or more networks providing communication between the server and the one or more clients, wherein the network conditions comprise at least one of:**

a ping time from the server to a computer on the one or more networks;
a round trip time of a message sent to a particular client;
a quality of service guaranteed to one or more clients; and
operating conditions of a device on the one or more networks used to route messages.

The Office Action contends that the limitations of Claim 1 in bold above are disclosed in *Higuchi* at paragraph 41.

Higuchi, paragraph 41 states, in its entirety:

The logical partition control unit 3 ensures the performance (resource bandwidth) of the lendable logical partitions 2A to 2L, references the logical partition management database 4 and the management server 10 to authenticate the client system 20a to which a logical partition is provided, and, as described later, and ensures the performance to be provided by locking the logical partition while it is being lent to prevent changes of allocated resources. Ensuring performance means ensuring the processing capability of CPUs

allocated to a lending partition (the number of CPUs or percentage of their time), and ensuring memory space and hard disk space.

This portion says nothing about network conditions between the client system and the management server. Rather, the “resource bandwidth” discussed in this portion refers to the “bandwidth” of local physical hardware resources such as CPUs, memory space, and hard disk space. One skilled in the art would not confuse computing processor and storage capabilities with network conditions. Thus, *Higuchi* fails to teach or suggest the claimed “network conditions”. If the Office wishes to maintain the rejection of Claim 11 Applicant respectfully requests that the Office withdraw the current rejection and mail a new non-final Office Action that identifies what network condition in *Higuchi* discloses at least one of: (a) a network ping time from a server to a computer on a network, (b) a round trip time of a message sent over the network to a particular client, (c) a network quality of service guaranteed to a client, or (d) operating conditions of a routing device on a network.

Claim 13 features, in part, “determining when to send a behavior modification hint is based on a scheduled event related to the server.” The Office Action alleges that this limitation of Claim 13 is disclosed in *Higuchi* at paragraphs 46-53. However, paragraphs 46-53 merely disclose a management server that responds to registration and borrowing requests from lending servers and clients. Nowhere in *Higuchi* does a server send a message based on a scheduled event related to the server. If the Office wishes to maintain the current rejection of Claim 13 then Applicant respectfully requests that the Office withdraw the current rejection and mail a new non-final Office Action that specifies what in *Higuchi* corresponds to the claimed “scheduled event related to the server”.

Claim 15 features:

The method of Claim 1, wherein the step of determining when to send a behavior modification hint is based on a server detecting that a particular client has sent one or

more retry messages, wherein a retry message is a second or subsequent message corresponding to a particular request for service from the particular client.

The Office Action contends that the features of Claim 15 are disclosed in *Higuchi* in paragraphs 46-53. However, nowhere in this portion of *Higuchi* or elsewhere is a “retry message” taught or suggested. If the Office wishes to maintain the current rejection of Claim 15 then Applicant respectfully requests that the Office withdraw the current rejection and mail a new non-final Office Action that specifies what in *Higuchi* corresponds to the claimed retry message sent from a client and what thing in *Higuchi* determines when to send a behavior modification hint based on a server detecting that a client has sent one or more of the thing in *Higuchi* that corresponds to the claimed retry message.

CONCLUSION

For the reasons set forth above, it is respectfully submitted that all of the pending claims are now in condition for allowance. Therefore, the issuance of a formal Notice of Allowance is believed next in order, and that action is most earnestly solicited.

The Examiner is respectfully requested to contact the undersigned by telephone if it is believed that such contact would further the examination of the present application.

Please charge any shortages or credit any overages to Deposit Account No. 50-1302.

Respectfully submitted,

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